

Status Update: 2020 Census Data Products and Stakeholder Engagement Plans

Census Scientific Advisory Committee 2021 Virtual Meeting

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Background

- 2020 Census Apportionment and Redistricting data have been released
- The timeline for the development and release of the Demographic and Housing Characteristics (DHC) File was impacted by splitting the development of the Disclosure Avoidance System (DAS) for the Redistricting data from the DAS for the DHC
- The timelines for the DHC and the Detailed DHC include both making decisions about demographic and geographic detail and the development and tuning of the DAS
- Use cases and data accuracy will be considered in decisions about the demographic and geographic detail included in the DHC and Detailed DHC
- Consistency between the Redistricting and DHC data continues to be included in the design of the DAS
- Even though both approaches will be based on differential privacy, the DHC and Detailed DHC will be protected using two different sets of algorithms
- The 2020 Census Data Products Planning Crosswalk provides information on the tables currently planned for inclusion in the DHC and Detailed DHC

Products Being Discussed Today

- The Demographic Profile
- The Demographic and Housing Characteristics (DHC) File
- The Detailed Demographic and Housing Characteristics (Detailed DHC) File

Finalizing the Contents of the DHC and Detailed DHC

- Revisit Demographic and Housing Characteristic (DHC) and Detailed DHC use cases
- Consider accuracy of the protected Redistricting data
- Evaluate privacy/accuracy tradeoff during tuning of the disclosure avoidance system for the DHC data
- Evaluate privacy/accuracy tradeoff of the protected Detailed DHC data

Potential Changes Under Consideration for the DHC File

- Limit the DHC tables to Census Tracts and above
- Produce the protected DHC tables directly without producing the underlying protected microdata
- Design of Detailed DHC already does not include the production of microdata
- Revisit the timing of the release of the Demographic Profile relative to the DHC and the contents of the Demographic Profile

Implications and Benefits of Producing the Protected DHC Tables Directly Without the Underlying Protected Microdata

- ✚ Potentially increased accuracy in the DHC tables
- ✚ May allow for release of DHC data sooner
 - Demonstration products would be in the form of tables instead of privacy-protected microdata files
- Potentially less/no consistency within DHC tables
- Potentially less/no consistency between Redistricting data and the DHC tables
- May impact the availability of the DHC data in other data products such as a PUMS file and Special Tabulations

Redistricting File (P.L. 94-171)

Public Law 94-171 directs the Census Bureau to provide data to the governors and legislative leadership in each of the 50 states for redistricting purposes. This product was the first file released that includes demographic and housing characteristics about detailed geographic areas

- **Subjects include:**

- Voting age
- Race
- Hispanic or Latino origin
- Occupancy status
- Group quarters population by major GQ type

- **Geography:** Census Block

- **Released August 12**

Demographic Profile

This product will provide critical demographic and housing characteristics about local communities from selected DHC tables in a streamlined, easy to use format as soon after the release of the Redistricting product as possible

- **Subjects will include:**

- 5-year age groups
- Sex
- Race
- Hispanic or Latino origin
- Household type
- Relationship to householder
- Group quarters population
- Housing occupancy
- Housing tenure

- **Geography:** Place/Minor Civil Division

Demographic and Housing Characteristics (DHC) File

The DHC will include many of the demographic and housing tables previously included in Summary File 1

- **Subjects will include:**

- Age
- Sex
- Race
- Hispanic or Latino origin
- Household type
- Family type
- Relationship to householder
- Some subjects provided for major OMB race/ethnicity groups
- Group quarters population
- Housing occupancy
- Housing tenure

- **Geography:** Various; with many subjects proposed to be available at the Census Block level
- The DHC will not include tables that provide counts by detailed race, Hispanic origin, tribes, and population counts by household/family types. These tables will be included in Detailed DHC

Detailed Demographic and Housing Characteristics (Detailed DHC) File

- Detailed Demographic and Housing Characteristics (Detailed DHC) File
 - Statistics for detailed race and ethnicity groups, and American Indian and Alaska Native tribe and village populations
 - Tables that require person and household joins not included in the DHC

2020 Census Data Products Planning Crosswalk (DHC and Detailed DHC Walk-through)

United States Census Bureau

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2020 Census Redistricting Data Now Available.

Census.gov • 2020 Census Decade • 2020 Decennial Census Program Management • Process • Disclosure Avoidance Modernization

2020 Census Data Products: Disclosure Avoidance Modernization

Modern computers and today's data-rich world have rendered the Census Bureau's traditional confidentiality protection methods obsolete. Those legacy methods are no match for hackers aiming to piece together the identities of the people and businesses behind published data.

A powerful new disclosure avoidance system (DAS) designed to withstand modern re-identification threats will protect 2020 Census data products (other than the apportionment data; those state-level totals remain unaltered by statistical noise).

Inspired by cryptographic principles, the 2020 DAS is the only solution that can respond to this threat while maximizing the availability and utility of published census data.

Learn More:

Disclosure Avoidance Webinar Series **
Join live or view archived presentations

Fact Sheet: Comparing Differential Privacy with Older Disclosure Avoidance Methods

Fact Sheet: Protecting the Confidentiality of 2020 Census Redistricting Data

Video: Protecting Privacy in Census Bureau Statistics

Preliminary Research Into Alternatives and Supplements to Differential Privacy (Production Settings)

Preliminary Research Into Alternatives and Supplements to Differential Privacy (April 2021 Settings) [<1.0 MB]

Assessing the Reliability and Variability of the TopDown Algorithm for Redistricting Data

2020 Census Disclosure Avoidance System: Development and Release Timeline [<1.0 MB]

Census Bureau Declarations for Alabama v. Commerce II Litigation - Part I [4.2 MB]

Census Bureau Declarations for Alabama v. Commerce II Litigation - Part II [1.5 MB]

Video Presentation: Differential Privacy and the 2020 Census [242 MB]

2020 Census Data Products Crosswalk [<1.0 MB]

Animation: Protecting Privacy with Math, a collaboration with MinutaPhysics

Infographic: A History of Census Privacy Protections

Protecting Privacy in Census Bureau Statistics

Protecting Privacy with MATH (Colla...)

A HISTORY OF CENSUS PRIVACY PROTECTIONS

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External Engagement on the Demographic and Housing Characteristics (DHC) File

- Engagements will help us make informed decisions about DHC File production
- Engagement plan includes a 3-pronged approach:
 - Engagement/Education (where are we going with differential privacy and the DHC, how do we get there)
 - Feedback/Listening (how DHC tables are used, for what purpose, can DAS tuning support)
 - Demonstration/Implementation (are data fit-for-use, what are the privacy – accuracy tradeoffs)
- Demonstration data using 2010 Census will be released to enable public to assess accuracy and privacy protection of DHC tables
- Demonstration data release and stakeholder engagement will be transparent and timely
 - At least two rounds of demonstration data releases
 - Minimum of 30 days for review and feedback period
 - Clear feedback guidelines

Ongoing External Engagement

- Plan to continue engagements with advisory and stakeholder groups, such as:
 - Census Scientific Advisory Committee (CSAC) and National Advisory Committee on Race (NAC)
 - CSAC and NAC Differential Privacy (DP) Working Groups - extended duration until December 2022 (set to expire in July 2021)
 - American Indian and Alaska Native Tribal Leaders
 - National Congress of American Indians
 - Committee on National Statistics (CNSTAT)
 - Federal-State Cooperative for Population Estimates (FSCPE)
 - State Data Center (SDC) and Census Information Center (CIC) networks
 - Civil Rights Groups
 - Federal agency partners
 - Congressional committees and staff
 - And more ...
- Plans are still being developed/discussed regarding external engagement on the Detailed DHC Product

Notional Timeline for DHC Development

Now – Fall 2021

- Release Updated 2020 Census Data Products Crosswalk File
- Collect feedback on potential changes to DHC crosswalk (e.g., reduced number of block level tables)
- Collect final feedback on the design of DHC tables
- Confirm DHC use cases
- Complete DAS development/feasibility testing (experiments) based on DHC specifications and accuracy targets
- Conduct internal review of initial DAS implementation
- Reassess timeline and communicate status

Winter 2021/2022

- Create and release first set of demonstration data
- Collect feedback and data fit-for-use assessments
- Assess feedback, incorporate changes to DAS implementation, and conduct internal review
- Reassess timeline and communicate status

Notional Timeline for DHC Development

Cont.

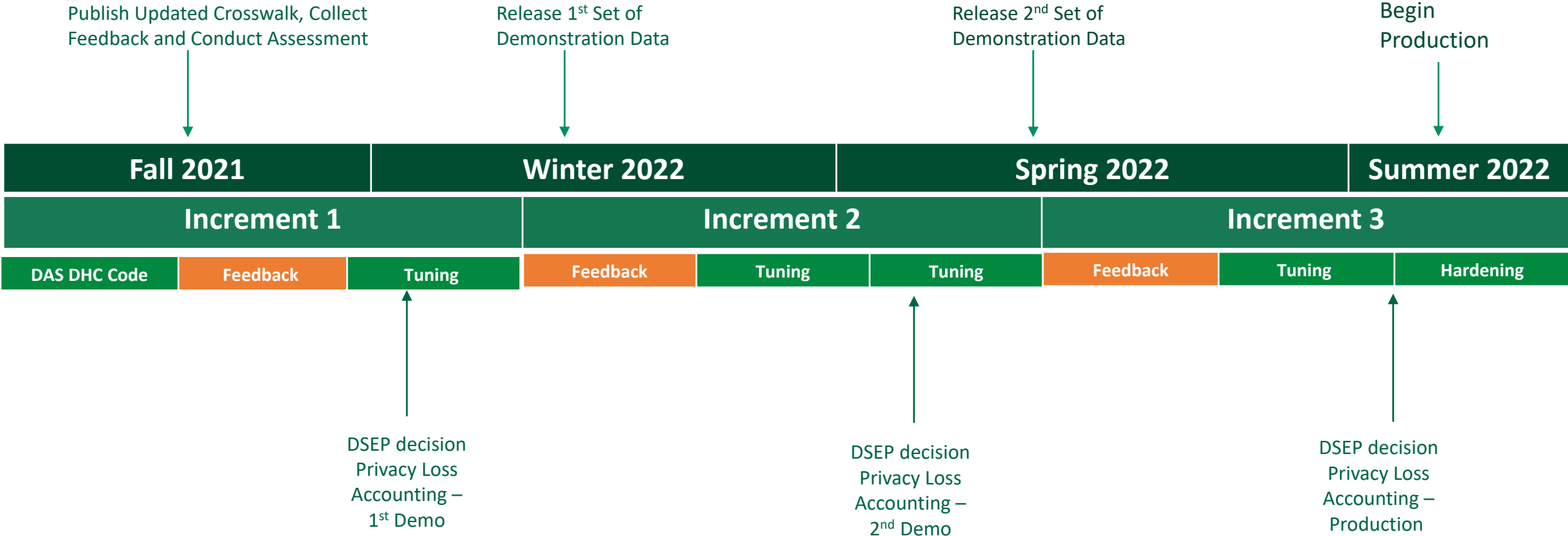
Spring 2022

- Create and release second set of demonstration data
- Conduct Public Workshop
- Collect feedback and assessments
- Assess feedback and determine completion of development

Summer 2022

- DSEP sets final parameters for DHC
- DHC production begins

DHC Development Notional Timeline



Questions for CSAC

- Do you have additional input on the implications of not producing microdata for the DHC or do you have suggestions for who we should reach out to regarding this potential change?
- What questions or concerns do you have about any of the potential changes to the DHC?
- Do you think 30 days is enough time for the public to provide feedback on the DHC tables? Are there external researchers you would recommend Census reach out to for feedback?